Technical Committee 184: Industrial automation systems and integration
Subcommittee 4: Industrial data

ISO NWI/CD Ballot Results
for ISO 10303-0218
Application protocol: Ship structures

The proposals were circulated among SC4 members for its vote on 2001-04-20.

12 of our 18 P-members responded to the NWI ballot:

COUNTRY	Agree to addition of NWI	Prepared to participate	Relevant documentation	SVAT Score	Annex Q
Australia	A	N	N	15	Y
Canada	A	N	N	15	Y
France	A				
Germany	Y	Y	N	21	Y
Japan	Y	Y	N	15	Y
Korea	Y	Y	N	25	Y
Netherlands	A				
Norway	Y	Y	N	17	Y
Sweden	A				
Switzerland	Y	N	N	13	Y
United Kingdom	Y	Y	N	16	y
United States	Y	Y	N	20	Y
Totals:	7	6	**Average SVAT points:**	18.1	

The SC4 Secretary has reviewed the NWI ballot responses and in consultation with the Chair proposes that the work item be restored to the SC4 work programme and that the draft document be submitted for DIS ballot after resolution of the comments received.

This document is also available digitally through SOLIS via ftp or www http://www.nist.gov/sc4/ndocs/n1202

11 of our 18 P-members responded to the CD ballot:

COUNTRY	VOTE	COMMENTS
Australia	A	
Canada		
China		
Czech Republic		
France	A	
Germany	Y	
Italy		
Japan	Y	Attached
Korea	Y	Attached
Netherlands	A	
Norway	Y	
Portugal		
Russia		
Spain		
Sweden	A	
Switzerland	Y	
United Kingdom	Y	
United States	Y	Attached

Ballot Comments

NOTE:
Some of these comment may have been scanned using Optical Character Recognition and have not been verified as 100% accurate. Please refer to the original hard copy in cases of irregularities.

<u>Japan</u>

see annex Japan

<u>Korea</u>

See annex Korea

<u>United States</u>

see annex US

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ISSUE NUMBER: JPN NWI/CD 10303-218-JMSA01
CLAUSE: Annex G
DESCRIPTION: The caption of the figure is meaningless. It is inconvenient to look up. In the former document N799 , the caption contains the UoF name.
PROPOSED SOLUTION: Improve the style of caption as in N799.
In N877: Figure G.1 - ARM diagram 1 of 49 in EXPRESS-G
In N799: Figure G.1 - class_approvals_structure schema (1/3) in the class_approvals UoF
RESOLUTION:

ISSUE NUMBER: JPN NWI/CD 10303-218-JMSA02
CLAUSE: 4.2.177.3 rule_inertia
DESCRIPTION: The explanation is not appropriate.
PROPOSED SOLUTION:
The sentence "The rule_inertia specifies the minimum allowable thickness of a Profile during the life-time." Should be modified as "The rule_inertia specifies the minimum allowable moment of inertia of a Profile during the life-time. "
RESOLUTION:

ISSUE NUMBER: JPN NWI/CD 10303-218-JMSA03
CLAUSE: 6 Conformance requirements
DESCRIPTION: Welds UoF should be included in the class 4-7 .
PROPOSED SOLUTION: Make the welds UoF included in the class 4-7.
RESOLUTION:

ISSUE NUMBER: JPN NWI/CD 10303-218-JMSA04
CLAUSE:
DESCRIPTION: Owner's approval should be included.
PROPOSED SOLUTION: Make owner's approval included.
RESOLUTION:

ISSUE NUMBER: JPN NWI/CD 10303-218-JMSA05
CLAUSE:
DESCRIPTION: There are no loading data to evaluate scantling of hull structural member.
PROPOSED SOLUTION: Make loading data to evaluate scantling of hull structural member included.
RESOLUTION:

ISSUE NUMBER: JPN NWI/CD 10303-218-JMSA06
CLAUSE:
DESCRIPTION: There are no exciting force by propeller and main engine to evaluate hull vibration and local vibration of hull structural member.
PROPOSED SOLUTION: Make exciting force by propeller and main engine to evaluate hull vibration and local vibration of hull structural member included.
RESOLUTION:

Member body	Clause / subclause	Paragraph / Figure / Table	Type of comment (general/ technical/editorial)	Comment	Proposed change	Observations of the secretariat on each comment submitted
KATS (Korea, Republic of)	4.2.237.2 the_function		Technical	Missing some function types of structural system that are listed in structural_system_functional_definition	Add the following functions of structural systems in the list : - topside tank plate - hopper tank plate - bilge plate - stern frame - gusset plate	

Member body	Clause/ subclause	Paragraph/ Figure/Table	Type of comment (general/ technical/editorial)	Comment	Proposed change	Observations of the secretariat on each comment submitted
US-1	3	3.7.1	Technical	The aft Perpendicular of vessels with transom sterns is located at the intersection of the design waterline and the transom.	Correct definition (As per San Francisco ISO Meeting)	
US-2	3	3.7.4	Technical	Beam is a transverse deck stiffener (OK)	Correct definition (As per San Francisco ISO Meeting) (Use Breadth for Width of Ship.)	
US-3	3	3.7.47	Technical	Lightship: A ship complete in every respect, including operation fluids up to their required operating levels, but without any crew or their effects or any consumables.	Correct definition (As per San Francisco ISO Meeting)	
US-4	3	3.7.66	Technical	sight edge: a line that lies on the hull surface and defines the longitudinal seam between adjacent plates.	Correct definition (As per San Francisco ISO Meeting)	
US-5	3	3.7.62	Technical	Note implies Sheer is always linear - it is not	Correct note (As per San Francisco ISO Meeting)	
US-6	4	4.1.18	Technical	Sentence needs work: This UoF contains definitions not only for a predefined breakdown into commonly used abstractions, but also others the possibility for more shipyard specific abstractions.	Rephrase Sentence (As per San Francisco ISO Meeting)	
US-7		4.2.99, figure 20	Technical	I joint is not an example of groove weld joint	Remove from figure (As per San Francisco ISO Meeting)	
US-8		4.2.234,	Technical	Open floors are labeled as	Correct Figure	

Member body	Clause/ subclause	Paragraph/ Figure/Table	Type of comment (general/ technical/editorial)	Comment	Proposed change	Observations of the secretariat on each comment submitted
		figure 34		bracket floors	(As per San Francisco ISO Meeting)	
US-9		Figure 36	Technical	a. Deck Longitudinals are labeled girders b. Rider plate is labeled "Gutter"	Correct Figure (As per San Francisco ISO Meeting)	
US-10		Figure 37	Technical	Solid Floors are labeled "open floors". A sketch of open floors is shown in Fig 34, though labeled as bracket floors.	Correct Figure (As per San Francisco ISO Meeting) (NOTE: See Matthias Grau for originals to improve quality --- These are Output from a CAD System --- May have to reconstruct)	
US-11		4.2.197 4.2.93.2.5	typos	Section_propertiesare severi	Separate "are" Severe	

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Member body	Clause/ subclause	Paragraph/ Figure/Table	Type of comment (general/ technical/editorial)	Comment	Proposed change	Observations of the secretariat on each comment submitted
US-12 (DUPLICATE) See US-65			Technical	Need to ensure that the Part 21 file contains the conformance class and schema version	Ensure that Application_protocol_definition entity exists in the AIM schema. Global rules must be added to ensure that these fields are present	

Member body	Clause/ subclause	Paragraph/ Figure/Table	Type of comment (general/ technical/editorial)	Comment	Proposed change	Observations of the secretariat on each comment submitted
US-13 **(DUPLICATE)** **See US-66**			Technical	The entity global_axis_placement is required for all exchanges to define the ship coordinate system	Need to add rule requiring one global_axis_placement entity per exchange.	
US-14 **(DUPLICATE)** See US-67			Technical	GUID id attribute string should be structured to be flexible so that it can be populated both by systems that use object references and systems that use keys as identifiers. Format should not impose requirement on key-based systems to maintain a superfluous set of identifiers. Format should be text-encoded according to well-defined syntactical and semantic rules. Format should support dependent entity instances even if owned by different companies.	GUID id attribute string should be encoded as an XML string which is a valid XLINK element. Syntax would then be prescribed by XML 1.0 and XML Names; and link semantics would be prescribed by Xlink 1.0 Company name would be encoded as the value of xlink:href attribute. Element name represents the name of the entity type being identified. Name/values of the element children correspond to the name/values of the entities identifier attributes. (This corresponds with global identifier in ISO10303-28.)	
US-15 EB-218-001 **(DUPLICATE)** **See/Use US-80**			Technical	The Ship Common Model does not support the capability to define the hull applicability of selected objects in a class design. The current model defines the product structure of one or more specific ships. Every item is related to one ship through the ship_context attribute. In a class design, all objects are related to the ship class. By default, an object is applicable to	A proposed change to add this capability was addressed at the recent ESTEP meeting and should be submitted by Ted Briggs of Intergraph. This issue is submitted here only to make sure it is properly registered as a U.S. Ballot Comment. The proposed solution should be the one submitted by Ted Briggs.	

Member body	Clause/ subclause	Paragraph/ Figure/Table	Type of comment (general/ technical/editorial)	Comment	Proposed change	Observations of the secretariat on each comment submitted
				all hulls in the class. Hull specific changes result in objects that are applicable to specific hulls. Often in a class design, the specific hull information is not fully defined. Typically, only the expected hull numbers of the initial ships of the class are known. Hence, the range of hulls is designated only by the initial hull number, e.g. hull 17 and follow.		
US-16	Through-out	Throughout	General	The Building Blocks shared by APs 218, 216, and 215 must be the same. Any change made to AP218 as a result of this CD Ballot must be incorporated in AP216 and AP215 before those documents are approved as IS.	Editors of the three APs (215, 216, and 218) must ensure that the Building Blocks used by each AP are consistent before they are released for DIS Ballot. (Agreed)	

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Date: 2001-05-29	Document:**ISO/10303-218 (WG3N877.pdf)**

Member body	Clause/ subclause	Paragraph/ Figure/Table	Type of comment (general/ technical/editorial)	Comment	Proposed change	Observations of the secretariat on each comment submitted
US-17		Pg 304	Technical	The CLASS template uses the entity "group_relationship" which in not in the	Add the entity "group_relationship"	

Member body	Clause/ subclause	Paragraph/ Figure/Table	Type of comment (general/ technical/editorial)	Comment	Proposed change	Observations of the secretariat on each comment submitted
				schema (Completed)		
US-18		Pg 319	Technical	PD_HAS_SAR should be the second word in the description, instead of PDCD	Correct the description (Completed)	
US-19		Pg 321	Technical	PDR uses the attributes "name" and "description" of the entity "property_definition_representation". These attributes are derived and will not be in the step file	Either find other attributes to store name and description in, or change the schema so these attributes are no longer derived (See Edition 2 of Part 41 --- Resolved in AP216, Need to do for AP 215 and AP218) (Completed)	
US-20		Pg 321	Technical	PDR_NAME uses the attributes "name" and "description" of the entity "property_definition_representation". These attributes are derived and will not be in the step file. This makes PDR_NAME the same as PDR.	Either find other attributes to store name and description in, or change the schema so these attributes are no longer derived (See Edition 2 of Part 41 --- Resolved in AP216, Need to do for AP 215 and AP218) (Extended entities have been removed, which closes this issue)	
US-21		Pg 327	Technical	PROP_DEF_REP_HELP uses the attributes "name" and "description" of the entity "property_definition_representation". These attributes are derived and will not be in the step file.	Either find other attributes to store name and description in, or change the schema so these attributes are no longer derived (See Edition 2 of Part 41 --- Resolved in AP216, Need to do for AP 215 and AP218) (Extended entities have been removed, which closes this issue)	
US-22		Pg 334	Technical	REP_TO_SPECIAL_VAL_REP_ITEM uses the attributes "name" of the entity	Either find another attribute to store name in, or change the schema so this	

Member body	Clause/ subclause	Paragraph/ Figure/Table	Type of comment (general/ technical/editorial)	Comment	Proposed change	Observations of the secretariat on each comment submitted
				"derived_unit". This attribute is derived and will not be in the step file.	attribute is no longer derived (See Edition 2 of Part 41 --- Resolved in AP216, Need to do for AP 215 and AP218) (Extended entities have been removed, which closes this issue)	
US-23		Pg 336	Technical	REP2SA_DN uses the attributes "name" and "description" of the entity "property_definition_representation". These attributes are derived and will not be in the step file.	Either find other attributes to store name and description in, or change the schema so these attributes are no longer derived (See Edition 2 of Part 41 --- Resolved in AP216, Need to do for AP 215 and AP218) (Extended entities have been removed, which closes this issue)	
US-24		Pg 338	Technical	SA2REP_DN uses the attributes "name" and "description" of the entity "property_definition_representation". These attributes are derived and will not be in the step file.	Either find other attributes to store name and description in, or change the schema so these attributes are no longer derived (See Edition 2 of Part 41 --- Resolved in AP216, Need to do for AP 215 and AP218) (Extended entities have been removed, which closes this issue)	
US-25		Pg 340	Technical	VAL_REP_ITEM_CD uses the attributes "name" of the entity "derived_unit". This attribute is derived and will not be in the step file.	Either find another attribute to store name in, or change the schema so this attribute is no longer derived (Extended entities have been removed, which closes this issue)	
US-26		Pg 426	Technical	Extra character found after "CLASS" in SHIP mappings	Remove the extra character after CLASS (Type – fixed)	

Member body	Clause/ subclause	Paragraph/ Figure/ Table	Type of comment (general/ technical/editorial)	Comment	Proposed change	Observations of the secretariat on each comment submitted
US-27		Pg 547, 724	Technical	The attribute "id" of entity "representation" is given a value. This attribute is derived and will not be in the step file, so it should not be used in the mapping table	Either find another attribute to store id in, or change the schema so this attribute is no longer derived (No changes are needed, mapping OK, derived but in STEP file)	
US-28		Pg 496, 498, 500, 501	Technical	The entity "product_category_relationship" is not in the schema but is used in the mapping table.	Add the entity "product_category_relationship" or change the mapping table. (Need to add to short listing includes)	
US-29		Pg 440	Technical	The entity "externally_defined_item_relationship" is not in the schema but is used in the mapping table.	Add the entity "externally defined_item_relationship" or change the mapping table. (Need to add to short listing includes)	
US-30		Pg 440	Technical	Either an entity name is misspelled, or a space has been left out: pre_defined_itempre_defined_item.name.	Add a space, changing the mapping table to "pre_defined_item pre_defined_item name" (Typo)	
US-31		Pg 436, 441	Technical	The entity "general_property_association" is not in the schema but is used in the mapping table	Add the entity "general_property_asociation" or change the mapping table. (Need to add to short listing includes)	
US-32		Pg 415	Technical	The attribute "description" of entity "external_source" is given a value. This attribute is derived and will not be in the step file, so it should not be used in the mapping table.	Either find another attribute to store description in, or change the schema so this attribute is no longer derived (No changes are needed, mapping OK, derived but in STEP file)	
US-33		Pg 367	Technical	The attribute "role" of entity "group_assignment" is given a value. This attribute is derived and will not be in the step file, so it should not be used in the mapping table.	Either find another attribute to store role in, or change the schema so this attribute is no longer derived (No changes are needed, mapping OK,	

Member body	Clause/ subclause	Paragraph/ Figure/ Table	Type of comment (general/ technical/editorial)	Comment	Proposed change	Observations of the secretariat on each comment submitted
					derived but in STEP file)	
US-34		Pg 347, 350, 540, 541, 654, 655, 668, 669, 709, 725, 730, 731, 737	Technical	The attribute "id" of entity "representation" is given a value. This attribute is derived and will not be in the step file, so it should not be used in the mapping table.	Either find another attribute to store id in, or change the schema so this attribute is no longer derived (No changes are needed, mapping OK, derived but in STEP file)	
US-35		Pg 356, 360, 397, 398, 402, 404, 408, 410, 418, 421, 508-511, 514, 515, 517, 528-530, 537-543, 546, 548-553, 555, 556, 558, 608, 627, 629-632, 636, 637, 639-641, 643, 650-652, 654, 655, 659, 662, 663, 665, 668, 669, 672, 677-679, 681, 682, 688, 690-693, 701, 704, 705, 708, 709, 715, 717-719, 721, 725, 726, 730, 731, 737, 739, 740,	Technical	The template PDR is given a parameter throughout the mapping table. PDR does not take parameters, although PDR_NAME does. If PDR_NAME is used instead, the parameter will be loaded into "property_definition_representation.name", which is derived and will not be in the step file, so the parameter is wasted.	Change the mapping tables to PDR_NAME if a parameter is given. (See US-19 & US-20) (Change mapping tables) (Done)	

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Member body	Clause/ subclause	Paragraph/ Figure/Table	Type of comment (general/ technical/editorial)	Comment	Proposed change	Observations of the secretariat on each comment submitted
		749, 750-763, 765-771, 773-781, 783, 786, 788, 794-798,800-803				
US-36		Pg 548-553	Technical	The entity "extended_material_designation" is not in the schema but is used in the mapping table	Add the entity "extended_material_designation" or change the mapping table. (Extended entities removed)	
US-37		Pg 548-553	Technical	The entity "material_designation_characterization is not in the schema but is used in the mapping table	Add the entity "material_designation_characterization" or change the mapping table. (USE FROM to be added) (AP218 Unique)	
US-38		Pg 548-553	Technical	The entity "material_property_representation" is not in the schema but us used in the mapping table	Add the entity "material_property_representation" or change the mapping table. (USE FROM to be added)	
US-39		Pg 548-553	(Editorial)	The entry "‑" is used, what does it mean?	Replace with the correct word in the mapping table. (Correct text)	
US-40		Pg 659	Technical	Misspelling: {CLASS_ID is {-CLASS_ID	Remove the "-" from CLASS_ID. (Correct Typo)	
US-41		Pg 726	Technical	The entity "plane" is not in the schema. The mapping table maps plane to a shape_aspect. Plane should be a subtype of surface.	Add "plane" to the entity list and correct the mapping table. (USE FROM to be added) (Done in AP216 – Verify that it has been done in AP218)	

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US-42	Figure 1, Figure L.1	Pg xi, Pg 1570	Editorial	Diagram needs to be updated - HVAC is included by AP 227 outfit by AP 236, and electrical is potentially covered by AP 212. Operations is partially covered by AP 234.	Show HVAC as covered by AP 227, electrical by AP 212, and operations by AP 234, and outfit by AP 236. (Jim Mays to get graphics) (Done)	
US-43	1	Pg 2	Technical	Need to exclude from scope the function, design, and loading of structural outfit items (---)	Add new exclusion clause (Leave scope as is, but clarify the introduction to the exclusion list as indicated in revised comment column)	
US-44	3.7		Editorial	There are a number of terms used by other definitions which are not included: ship structure, hullform, deckhouse, longitudinal, transverse, ship surface, half breadth	Add definitions. Add illustration similar to Figure 28 to define transverse and longitudinal. (Jesse Crusey to identify missing definitions, and provide to Ted Briggs)	.
US-45	4.2.208.1	Pg 193	Editorial	The text references seam and spot welds, but Figure 29 illustrates slot and spot welds. The relationship is not clear.	Clarify. (Delete Figure 29 since it is not relevant)	
US-46	3.7.52	Pg 15	Technical	Moulded hullform is defined as a "representing of a ship hull". This is inconsistent with the use of hullform elsewhere in the definitions.	Change to "representing major ship structural elements" or similar (Change hullform to structural element in all clause 3 definitions. Use AP216 Moulded_hullform definition.)	
US-47	3.7.56	Pg 15	Technical	Production engineering should be just production. This is consistent with the AAM. Production engineering is used in US shipyards to denote engineering which focused on detailing the production and fabrication aspects of the design. Also the phrase "production design" is confusing – is this the design	Change to production, clarify or change "production design" to "design" (Also, change "production engineering" to "production", Remove "product design" from conformance class (clause 6))	

Member body	Clause/ subclause	Paragraph/ Figure/Table	Type of comment (general/ technical/editorial)	Comment	Proposed change	Observations of the secretariat on each comment submitted
				or something special?		
US-48	3.7.56	Pg 15	Editorial	Note following definition is out of place – has no bearing on definition.	Remove Note. (On Production engineering)	
US-49	3.7.37, 3.7.61	Pg 13 Pg 16	Technical	Definition does not specify direction of bending – decks and hulls can be stressed in the traverse direction.	Change "bending" to "bending along the longitudinal axis"	
US-50	3.7.76	Pg 18	Technical	Tangency condition is stated as first derivative as "constant" should be "zero".	Change to "first derivative is zero"	
US-51	3.7.72	Pg 18	Technical	Structural plates are not just compartment boundaries. This definition needs to be revised or removed. Note that this is the only type of structural part included in the definitions.	Correct definition or remove (Remove definition And structural stiffener (Needs some research) Concept definition needed in Clause 3 and Object deinition needed in Clause 4)	
US-52	3.7.78	P 19	Technical	These are longitudinal measurements at a fixed transverse position. This is clearly stated for flare, but not stated clearly here. They should not be called a moulded form feature.	Modify wording, similar to flare. (going in opposite direction)	
US-53	3.7.78	P 19	Technical	Note is confusing. The opposite of flare would be to measure the decrease in transverse width. Tumblehome is the corresponding measurement in the transverse direction.	Note should state that Tumblehome is the corresponding measurement to flare in the transverse direction.	
US-54	3.7		Technical	Hullform is used extensively in the definitions, but is not defined , or used in the Clause 4.2 Entity definitions. It is also not used in AP 216. The usage here is similar to "moulded forms of major structural elements", not just the hull or hull plus weather deck. It needs to be added to 3.7 for clarity	Add definition for hullform. (This definition is in AP216.) (See US-46 --- Related)	

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US-55	Annex D		Technical	PICS conformance questions do not ask about geometry conformance classes supported. Also if Part 22 is supported, they need to document which binding is supported.	Modify conformance class question to include shape representations SDAI binding supported, or add separate questions for these items. (Update this text in clause 6 and keep in PICS Questionnaire. Add Questions to specify Part 22 (i.e., ISO 10303-22) bindings in Annex D)	
US-56	6, Annex D, Question 3			Conformance class section includes implementation in Part 22, but Question 3 of PICS compliance includes only Part 21.	Remove reference to Part 22 or add questions to PICS questionnaire. (Add this text to Annex D and remove in Clause 6: —ISO 10303-22.)	
US-57	6, Table 20		Technical	Missing conformance class for early stage design using non-manifold surfaces. Hull cross section is supported only by early stage design conformance classes. Further, conformance class 3 does not support class approval. This was the approach discussed during the 218 workshop at SCRA in November	Add new conformance class for early stage design that uses non-manifold surfaces. (Add non_manifold_surface as a new conformance class to early design.)	
US-58	6 Table 22		Technical	Manufacturing conformance classes do not include weld UoF.	Add weld UoF to all manufacturing conformance classes. (Where is the break between Design and manufacturing? --- Solve at Charleston Workshop in September 2001)	
US-59	6, Table 24		Technical	Advanced Face should be included in all conformance classes supporting non-manifold surface shape representations. Many existing translators, especially those based on 203 and 214, export advanced faces.	Add advanced face to all conformance classes for non-manifold surfaces shapes. (Use AIC) (Cross References need to be more precise.)	

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US-60	6, Table 24		Technical	Manifold_solid_brep and brep_with_voids are included in all conformace classes except 1. They should be restricted to those conformance classes supporting brep.	Remove brep entities from other conformance classes (Cross References need to be more precise.)	
US-61	6, Table 24		Technical	Connected_edge_set are included in all conformance classes. They should be restricted to those conformance classes supporting wireframe	Remove wireframe specific entities from other conformance classes (Cross References need to be more precise.)	
US-62	6, Table 24		Technical	Conformance classes which use geometrically_bound wireframe should not include topology entities.	Remove topological entities from geometrically_bound wireframe conformance classes (Cross References need to be more precise.)	
US-63	4.2.102	Pg 121	Technical	Hull_cross_section_design_definition is defined as using edge_based wireframe or non_manifold surface, neither of which is included in conformance class 1. It would be preferable to keep a single wireframe conformance class for early design.	Add conformance class for non-manifold surface and either change definition or add corresponding conformance class for edge-based wireframe. (Put in correct AIC' s)	
US-64	4.2.57 Figure G.7		Technical	Design loads are subtyped from design_definition. It is not clear that representations are needed for design loads. There is no definition of representations provided.	Subtype design load from definition. (Change to be a subtype of general_characteristics_definition)	

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US-65 See US-12			Technical	Need to ensure that the Part 21 file contains the conformance class and schema version	Ensure that Application_protocol_definition entity exists in the AIM schema. Global rules must be added to ensure that these fields are present (Define same as AP214 --- as discussed at ESTEP Meeting – Groton, July 2001)	
US-66 See US-13			Technical	The entity global_axis_placement is required for all exchanges to define the ship coordinate system	Need to add rule requiring one global_axis_placement entity per exchange file or repository. (Straightforward to do)	
US-67 See US-14			Technical	GUID id attribute string should be structured to be flexible so that it can be populated both by systems that use object references and systems that use keys as identifiers. Format should not impose requirement on key-based systems to maintain a superfluous set of identifiers. Format should be text-encoded according to well-defined syntactical and semantic rules. Format should support dependent entity instances even if owned by different companies.	GUID id attribute string should be encoded as an XML string which is a valid XLINK element. Syntax would then be prescribed by XML 1.0 and XML Names; and link semantics would be prescribed by Xlink 1.0 Company name would be encoded as the value of xlink:href attribute. Element name represents the name of the entity type being identified. Name/values of the element children correspond to the name/values of the entities identifier attributes. (This corresponds with global identifier in ISO10303-28.) (See Expanded Description in US-80)	
US-68			Technical	The allowable attributes values for Product_context are not specified	Add global rules for Product_context attributes. (Some required attributes have already been addressed. Address the remaining required attributes at the Charleston Workshop in September	

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					2001.)	
US-69			Technical	The allowable attributes values for Application_context are not specified	Add global rules for Application_context attributes. (Conceptually the same as in AP216 --- Use the same processes as in AP216.)	
US-70			Technical	Derived attributes of integrated resource entities should be explicitly mapped to entities from the basic attribute schema. The revised Part 42 added missing attributes as derived attributes, which require the use of entities from the basic attribute schema. For example, Property_definition_representation has two derived attributes, name and description, which require separate name_attribute and description_attribute entitties.	Add explicit path to existing templates and mappings. (This is in AP216 --- Do the same for AP218)	
US-71			Technical	Description attribute of Property_definition_representation should not be set to ' UNUSED' . This requires the instantiation of a separate description_attribute entity and does not add any information to the exchange.	Do not set PDR.description attribute in the mapping templates. This should also apply to any other derived attribute set to ' UNUSED' . (This is in AP216 --- Do the same for AP218)	
US-72			Technical	Need to include CAD system precision value within the exchange file, similar to use of uncertainty_measure_with_unit in AP 203. At the ARM level, this is the distance at which two points are considered coincident.	Ensure use of uncertainty_measure_with_unit consistent with AP 203. (This is in AP216 --- Do the same for AP218)	
US-73	4.2.234	Diagram 18, 44	Technical	According to 4.2.234, Structural_systems should contain structural_parts or other structural_systems. However, this is not shown in the Express-G.	Redefine items attribute to structural_part_select (AP218 Specific) (The Express-G constraints need to be	

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				modified.)		
US-74	4.2.161	Diagram 44	Technical	According to 4.2.161, Plate_Strake should contain only plates. However this is not shown in the Express-G.	Redefine items attribute to plate. (AP218 Specific)	
US-75		Diagram 44	Technical	Built_profile should contain only profiles. However this is not shown in the Express-G.	Redefine items attribute to profile. (AP218 Specific)	
US-76	4.2.141	Diagram 44	Technical	Panel_syetems should contain only plates, profiles, or plate_strkes. However this is not shown in the Express-G. (The Express-G does not match Clause 4.2.)	Redefine items attribute to structural_part or plate_strake (AP218 Specific) (Make Express-G consistent with Clause 4.2.)	
US-77	4.2.149, 4.2.224		Technical	The definition for part states it may be a component of a system, assembly, or space. However, there is no constraint to require parts to belong to at least one system or assembly. Since 218 contains only structural_parts, this should be written to require structural_parts to belong to structural_systems or assemblies.	Add rule to require every structural part belong to at least one structural_structural system or assembly. (?) (Is this really an Issue? Don't want to over constrain for production.) (Perhaps address constraints in an Implementor's Agreement or Recommended Practice or Usage Guide and then add a note pointing to the document(s).)	
US-78	4.2.149		Editorial	The last sentence of the definition is reversed: "Each Part is a Structural_part (see 4.2.224)."	Change to "Each Structural_part is a Part (see 4.2.224)."	
US-79	4.2.98		Editorial	The definition states: "A Global_id is a persistent, global identifier that uniquely identifies the definition." This is not sufficient to convey the expected usage.	Change to "A Global_id is a persistent, immutable, global identifier that uniquely identifies a definable_object or definition. It is used by external_instance_reference entities to provide a reference to entities which were exchanged previously or to	

Member body	Clause/ subclause	Paragraph/ Figure/Table	Type of comment (general/ technical/editorial)	Comment	Proposed change	Observations of the secretariat on each comment submitted
					reference entities in another Application Protocol. This permits the ship structure to be exchanged incrementally, while maintaining item_relationships. It also permits ship structure entities to reference entities in other Application protocols, e.g. a plate_design_definition can reference a moulded_form entity exchanged via AP 216. "

(It is important to add clarity.) | |

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Member body	Clause/ subclause	Paragraph/ Figure/Table	Type of comment (general/ technical/editorial)	Comment	Proposed change	Observations of the secretariat on each comment submitted
US-80

See US-53 | | | Technical | The Ship Common Model does not currently support the capability to exchange information about a class of ships. Naval ships are designed, produced, and operated based upon ship class information. Ships of the same ship class are substantially equivalent, with variations primarily in outfitting. This is similar to the notion of sister ships in the commercial world.

In a class design, all elements are related to the ship class. By default, an element is applicable to all hulls in the class. Hull specific changes result in elements that are | **Options**:

The Ship Common Model current supports the capability to exchange information about one or more specific ships where every item is related to exactly one ship through the ship_context attribute. This supports Use Case 1.

At first inspection, it would seem that the ship to item relationship could be modified to support the notion of ship class. However, the ship_context attribute cannot be modified to allow an item to be related to multiple ships since the AIM schema allows a Product_Definition to be related to only one Product_Definition_Formation. | |

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				applicable to specific hulls. These changes may be applied at the item level, e.g. adding a new system, compartment, or equipment, or may be applied at the definition level, e.g. different revisions are used to call out hull-specific changes to properties and/or geometry.

Initially, only the initial hull numbers of the ship class are known. Hence, the class is specified as the initial hull number and follow, e.g. 17 and follow, while hull specific elements are denoted as a list of hull number ranges, e.g. 17, 19-21, 22, 24 and follow.

The Use Cases, which describe hull applicability, include:

1. Item and definitions are unique to a single hull with no notion of ship class
2. Items and definitions apply to class of ships
3. Items differ by hulls within a ship class, e.g. a new system or piece of equipment exists on certain hulls
4. Definitions differ by hulls within a ship class, e.g. certain revisions only apply to certain hulls
5. Items and definitions are shared by multiple hulls within a ship class, e.g. every second and third ships have the same configuration.

Currently the Ship Common Model | Hence, the ship entity must be modified to accommodate the notion of ship class.   There are three options:

1. Define Ship_class as a subtype of ship and not affect the usage of ship.

   This structure does not seem intuitive – a Ship_class is not logically a subtype of a ship. Ship_class does not add any new attributes or relationships. A global rule would be required to ensure that either a Ship_class or a ship was instantiated. Both would presumably map into product in the AIM schema. Translators would then need to query for a group with name ship, for follow the applied_classification_assign ment links to determine which subtype was present.

2. Define Ship_class as a subtype of ship, make ship abstract, add another subtype for single_ship, and add a ONE OF constrain to ship.

   This structure seems more intuitive, but affects the current exchanges of single ship information. This could be avoided somewhat if the subtype was named ship, but then all the relationships would have to be renamed to the supertype, which affects much of the model. Both subtypes map naturally into product. Again, in either case, the translators would then need to query for a group with name | |

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				supports only Use Case 1. Although other Uses Case could potentially be supported by Implementation agreements about GUID' s, the resulting data could not be re-assembled in a single repository. Because of the release cycle of shipbuilding AP' s, the solution must also ⇒ not affect current exchange of single ship information ⇒ not affect the scheduled release of shipbuilding AP' s ⇒ have minimal impact on the Ship Common Model	ship, for follow the applied_classification_assign ment links to determine which subtype was present. 3. Add an attribute to ship, which distinguishes its use as a Ship_class. This has the least impact on the schema and translator processing, but will require additional verbiage in clause 4.2 to describe its usage. This maps reasonably well to product_context. Translators could query for product_context and determine the usage directly. A new entity is required to manage the hull applicability of items and definitions. There are two options: 1. Instantiate separate ship objects and define a new object which relates items and definitions to specific ship objects. This requires instantiation of ship objects for every ship in the class and does not support open-ended hull ranges. It complicates processing, since, in this case, the ship entities will be related to only these new applicability objects and not items. To find the applicability of a given object, N separate relationships must be traversed to find the applicable ship. In essence, using the existing ship entity to model effectivity only complicates processing. 2. Define a separate entity, which labels items and definitions with a list of applicable hull ranges. The	

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					integrated resources already provide several entities to support effectivity. Product_definition_effectivity is restricted to product_defintions and does not support effectivity of definitions. However, effectivity_assignment can be subtyped to applied_effectivity_assignment and related to a select type of items and definitions. The Serial_number_effectivity entity supports definition of a single open-ended range of hulls. Effectivity_assignment contains a set of effectivities. **Proposed**: Modify ship entity Add enumeration type attribute to Ship entity : Ship.single_hull_or_class: single_or_multiple_hulls; (* specifies whether the exchange of data is applicable to a single hull or to multiple hulls in a class of Ships. If the the value of single_hull_or_class is "design_for_multiple_hulls", the range of hulls for which particular <Item>s or <Definition>s are applicable shall be specified using the <Hull_applicability>. TYPE Single_or_multiple_hulls = ENUMERATION OF (design_for_single_hull, (* the product data is applicable to a single hull *) design_for_multiple_hulls (* the product data is applicable to multiple hulls in a class of ships.*)); END_TYPE;	

Member body	Clause/ subclause	Paragraph/ Figure/Table	Type of comment (general/ technical/editorial)	Comment	Proposed change	Observations of the secretariat on each comment submitted
					⇒ It could map to a product_context attribute. ⇒ Modify definition of ship in clause 4.2 to clarify use of new attribute ⇒ Modify definition of item in clause 4.2 to clarify usage Add new entity hull applicability ENTITY Hull_applicability; (* identification of a hull, or a range of hulls within a class of ships, for which particular product data is applicable.*) start_hull : Label; (* specifies the first hull in a range of hulls for which the product data is applicable. *) end_hull :OPTIONAL Label; (* specifies the final hull in a range of hulls for which the product data is applicable. The end_hull need not be specified for a particular Hull_applicability. If the end_hull is not specified, the product data is applicable to only the start_hull.*) items_for_hulls : SET OF Item; (* <Item>s that are applicable for the range of hulls specified in <start_hull> and <end_hull>.*) definitions_for_hulls : SET OF Definition; (* <Definition>s that are applicable for the range of hulls specified in <start_hull> and <end_hull>.*) END_ENTITY; This maps naturally to Applied_effectivity_assignment with a set of Serial_number_effectivity entities.	
US-81	5.1.1.18		Editorial	Templates should be in alphabetical order. IDENTIFICATION should come after 5.1.1.22 ID_ROLE.	Move template to after ID_ROLE template.	
US-82	Clause 4	4.2.5 p.43	Minor Editorial	Approval_history ' protion' ' portion'	Change to: ' portion'	

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		4.2.5.3 p.44		Approval_history.subject ' 4.3.2'	Change to: ' 4.3.3'	
		4.2.21 p.58		Carrier missing carriage return	Change to: insert carriage return	
		4.2.21.1.?		some cases ' Carrier' while some ' cargo Carrier'	Change to: make consistent	
		4.2.35.1		approval_required_for_heavy_cargo ' hc' ' hc_e' & ' hc_ea'	Change to: ' HC' , ' HC_E' & ' HC_EA' .	
		4.2.35.7		class_society ' organizational'	Change to: ' organisational' (Reject – See Oxford Dictionary)	
		4.2.36		Class_parameters ' that Class_parameters specify'	Change to: ' that specify'	
		4.2.36.3		design_speed_astern ' Ratio_measre' ; ' SORT' ; ' meter'	Change to: ' Ratio_measure' Change to: ' SQRT' Change to: ' metre' 2plcs.	
		4.2.54.3		local_units ' one of more'	Change to: ' one or more'	
		4.2.56		Design_definition ' refernce'	Change to: ' reference'	
		4.2.56.1		representations ' design definition it is' ; ' one of more' .	Change to: ' design definition. It is' Change to: ' one or more'	
		4.2.64		Document_portion ' subset of portion of a Document' '	Change to: subset of a Document'	
		4.2.64.1		element_type ' paragraph..'	Change to: ' paragraph.'	
		4.2.65.1		assigned_document missing assertion?	Change to: add assertion	
		4.2.81.1		description ' External_reference..'	Change to: ' External_reference.'	
		4.2.82		External_storage ' disks, video' ' libary'	Change to: ' disks, or video' ; Change to: "library'	
		4.2.113		Item_relationship missing ' Each Item_relationship is either a ….'	Change to: add ' Each Item_relationship is either a ….	

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		4.2.114		Item_structure missing ' Each Item_relationship is either a .…'	Change to: add ' Each Item_relationship is either a .…	
		4.2.123		Local_co_ordinate_system ' that has to member in the same'	Change to: ? (replace with appropriate words)	
		4.2.124		Local_co_ordinate_system_with_po sition_reference ' as transformation to the global'	Change to: . ' as transformations to the global'	
		4.2.135.1.1		aircraft_carrier move ' either STOVL, STOBAR, or CTOL' to example	Change to: (see AP216)	
		4.2.135.1.2		auxiliary_oiler ' with VERTEP services'	Change to: ' with vertical-replenlishment (VERTEP) services'	
		4.2.186		Regulation ' as well as standards'	Change to: ' as well as other standards'	
		4.2.187.1		has_type has list of one.	do away with list.	
		4.2.188.1		members ' Versionable_objects the Revision'	Change to: ' Versionable_objects of the Revision'	
		4.2.189		Revision_with_context ' serves the link'	**Change to:** ' serves as a link'	
		4.2.200.2		units ' one of more'	**Change to:** ' one or more'	
		4.2.201		Ship_designation ' categorized'	**Change to:** ' categorised' (Reject --- See Oxford Dictionary)	
		4.2.206.3		relating_spacing_position	**Add an** extra carriage return.	
		4.2.252		Universal_resource_locator ' eg.'	**Change to:** ' e.g.'	
		4.2.252.1		location missing carriage return; ' severall'	**Add Carriage return** **Change to:** ' several'	
		4.2.254.1		subject ' Change Event'	**Change to:** ' Versionable_object_change_event'	
		4.2.256.2		subject ' Change Event' ' Versionable_object_change_event'	**Change to:** ' Versionable_object_change_event'	
		4.2.261.1		spacing_table_representations ' which'	**Change to:** ' that'	

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US-83	Clause 6		Technical	Many vendors and shipyards are planning to use Part 28 format to exchange AP 218 data.	Add reference to ISO 10303-28 to Clause 6 list of implementations.	
US-84	5.1 and 5.2		Technical	There are no references in 5.1, 5.2, or Annex A to Part 47 shape dimension schema entities for dimensional or angular related constructs.	Map size and location dimensions type data to the correct shape dimension schema entities in Part 47.	
US-85	General		Technical	There are no tolerances specified in the AP. Although manufacture and assemble related product definition data are in-scope. I would expect to see a tolerance associated plate edge preparation, modular units, etc. that come together at the shipyard for ship assembly		
US-86	General		Editorial	Terms with multiple meaning, e.g., Beam to mean stiffener and the transverse width of the ship; Tender to mean a ship type and to tender an offer (a bid proposal); and others	Remove the ambiguity	
US-87	General		Technical	Multiple terms each with a specific meanings but used interchangeably or are used inconsistently throughout the AP, e.g., class, classification, group, and product, item, part, object	Define each concept in Clause 3 and use the terms consistently in the text so as to support the definitions in Clause 3.	
US-88	General		Technical	The term ' items' used in the text is often referring to the concept as well as the AO Item or AO Item(s) or it could also mean the UoF items. There are times when the text could be referring to an attribute that is a typo and really should have been item_1 or item_2 etc. Often it is not clear which or what is really intended.	Remove the ambiguity	

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US-89	4.1.8		Editorial	In the phrase following the Note …the items UoF; is incorrect	Change to …the library_reference UoF;	
US-90	General		Editorial	Circular definitions in many Clauses and Annex F. Many times the definition defines what the term does instead of defining what the term is.		
US-91	General	Figure 13, 23, 33 plus others	Graphical/Editorial	The quality of the some of the figures as such that it is difficult to read the text.	Remove the shading and replace with solid lines and text. Improve the quality of the figures	
US-92	Clause 5		Technical	Product structure and Product definition are mapped very differently in the shipbuildng APs than any other 10303 AP.		